

JAVA.UTIL.PRIORITYQUEUE CLASS

http://www.tutorialspoint.com/java/util/java_util_priorityqueue.htm

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Introduction

The **java.util.PriorityQueue** class is an unbounded priority queue based on a priority heap. Following are the important points about PriorityQueue:

- The elements of the priority queue are ordered according to their natural ordering, or by a Comparator provided at queue construction time, depending on which constructor is used.
- A priority queue does not permit null elements.
- A priority queue relying on natural ordering also does not permit insertion of non-comparable objects.

Class declaration

Following is the declaration for **java.util.PriorityQueue** class:

```
public class PriorityQueue<E>  
    extends AbstractQueue<E>  
    implements Serializable
```

Parameters

Following is the parameter for **java.util.PriorityQueue** class:

- **E** -- This is the type of elements held in this collection.

Class constructors

S.N.	Constructor & Description
1	PriorityQueue() This creates a PriorityQueue with the default initial capacity (11) that orders its elements according to their natural ordering.
2	PriorityQueue(Collection<? extends E> c) This creates a PriorityQueue containing the elements in the specified collection.
3	PriorityQueue(int initialCapacity) This creates a PriorityQueue with the specified initial capacity that orders its elements according to their natural ordering.
4	PriorityQueue(int initialCapacity, Comparator<? super E> comparator) This creates a PriorityQueue with the specified initial capacity that orders its elements according to the specified comparator.
5	PriorityQueue(PriorityQueue<? extends E> c) This creates a PriorityQueue containing the elements in the specified priority queue.
6	PriorityQueue(SortedSet<? extends E> c)

This creates a PriorityQueue containing the elements in the specified sorted set.

Class methods

S.N.	Method & Description
1	<u>boolean add(E e)</u> This method inserts the specified element into this priority queue.
2	<u>void clear()</u> This method removes all of the elements from this priority queue.
3	<u>Comparator<? super E> comparator()</u> This method returns the comparator used to order the elements in this queue, or null if this queue is sorted according to the natural ordering of its elements.
4	<u>boolean contains(Object o)</u> This method returns true if this queue contains the specified element.
5	<u>Iterator<E> iterator()</u> This method returns an iterator over the elements in this queue.
6	<u>boolean offer(E e)</u> This method inserts the specified element into this priority queue.
7	<u>E peek()</u> This method retrieves, but does not remove, the head of this queue, or returns null if this queue is empty.
8	<u>E poll()</u> This method retrieves and removes the head of this queue, or returns null if this queue is empty.
9	<u>boolean remove(Object o)</u> This method removes a single instance of the specified element from this queue, if it is present.
10	<u>int size()</u> This method returns the number of elements in this collection.
11	<u>Object[] toArray()</u> This method returns an array containing all of the elements in this queue.
12	<u><T> T[] toArray(T[] a)</u> This method returns an array containing all of the elements in this queue; the runtime type of the returned array is that of the specified array.

Methods inherited

This class inherits methods from the following classes:

- `java.util.AbstractQueue`
- `java.util.AbstractCollection`

- `java.util.Object`
- `java.util.Collection`